

Quantitative project

Original Concept - Creating music from art color palette's

I'd like to use P5, D3 or another tool to extract color palettes from works of art then present these swatches along a horizontal timeline (see the color swatches at the top image below for reference of how this might be represented). Then I could use the frequency of that color to generate sound. The user could, in effect, hit a Play button and play through the color story of any given piece of art.

This could live on a website or, with enough time, exist as an application that the user could use to point at any work of art (or image, period) to hear what it might sound like. There are possible universal design uses of such an application.



My goal is to have sound that is on a smooth ramp between volume and pitch. To that end ideally the color rendering might look like a histogram in which Y axis is volume, color is pitch and the X axis is the timeline. I'm not sure about sort order along the X axis. In my mind this is more of an experiment to see the design space possibilities. After a fair amount of research I'm not sure a satisfying result is possible within this project timeframe.

Possible uses

The same code architecture could be used in a number of different ways to discover what produces the most interesting output.

- Apply to individual works of art
- Average color palettes from an entire exhibit

- Average/interpret color palettes from galleries within the museum

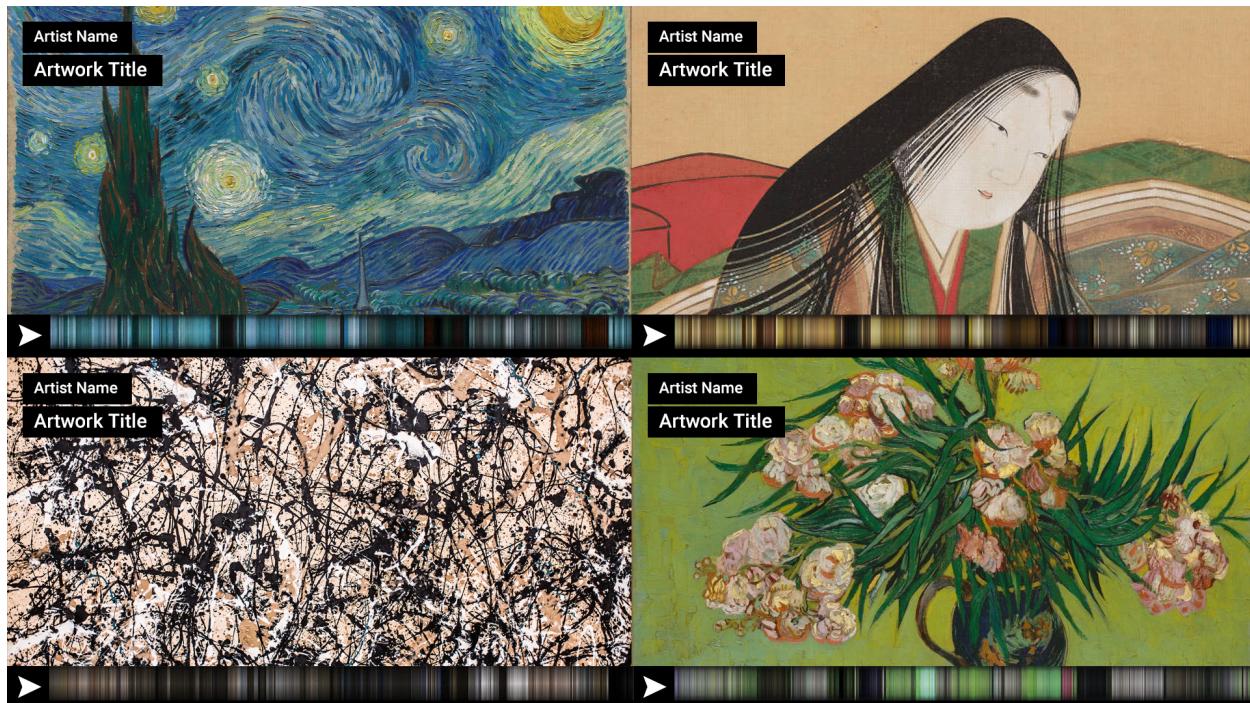
Issues

- Producing a satisfying soundtrack
- Many of the precedents, and my own experiments, produce sounds that seem detached from the source material or they're just plain ol' unpleasant. Finding a satisfying process for interpreting and tuning the musical output is beyond the scope of this project

Production steps

- Find images
- Use some tool (P5, D3, etc) to generate color palettes
- Apply some structure to the output
- Histogram of color palette with smooth ramps for sounds transitions
- Add sound based on color value

Initial concept sketch



Feedback

It seems like a nice experimental idea, and like you suggested, it might only fit borderline to

the description of a quantitative visualization. If this is what you're going for, I think the following questions come up: What determines the order of colors from left to right? Would it make sense to sort it at all? For a viewer, what can be learned from this translation? How does this differ from using a painting vs an advertising poster, or a live camera feed? How would it deal with 3D content? And lastly, how does it sound? Many a media-arts projects fail from too direct or simplistic translations, i.e. turning RGB values into sound frequencies. And lastly, where does this live? Is it an app, in browser, etc?

Possible tools and precedents

<https://jariz.github.io/vibrant.js/>

Vibrant.js

Extract prominent colors from an image.

Vibrant.js is a javascript port of the [awesome Palette class](#) in the Android support library.

Showcase



Vibrant Muted DarkVibrant DarkMuted LightVibrant

LightMuted



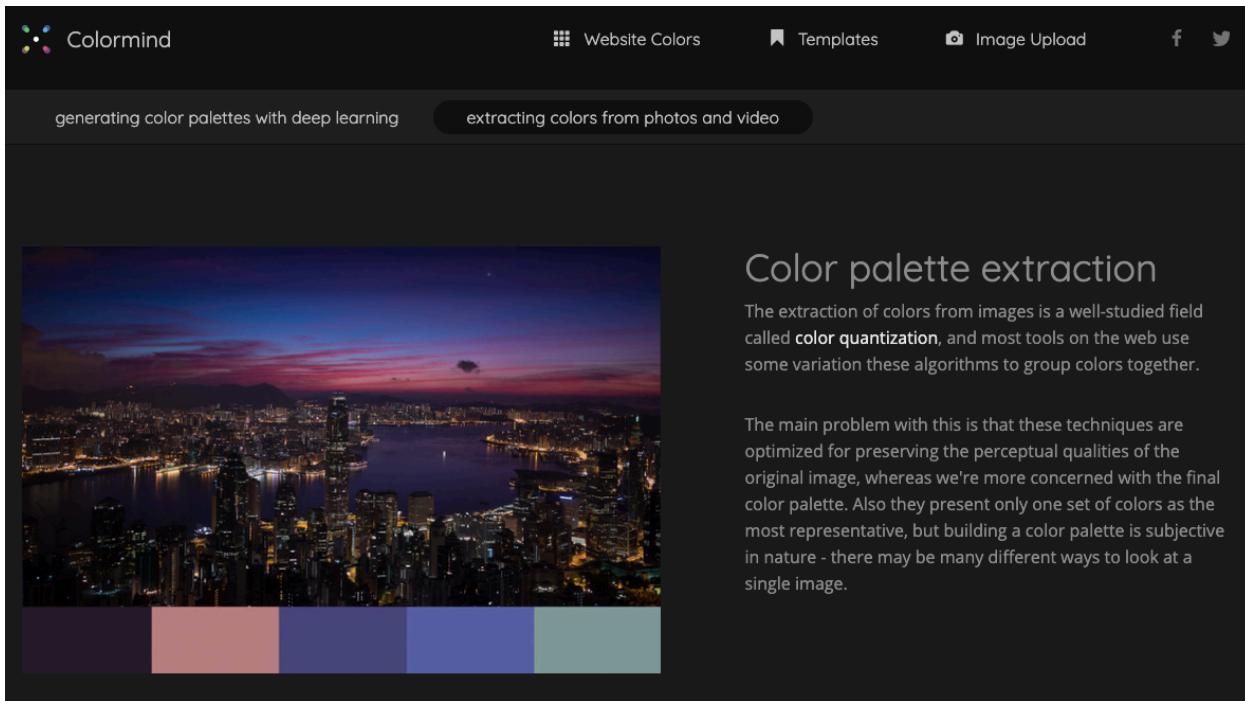
Vibrant Muted DarkVibrant DarkMuted LightVibrant

<http://colormind.io/blog/extracting-colors-from-photos-and-video/>

 Colormind

Website Colors Templates Image Upload f t

generating color palettes with deep learning extracting colors from photos and video



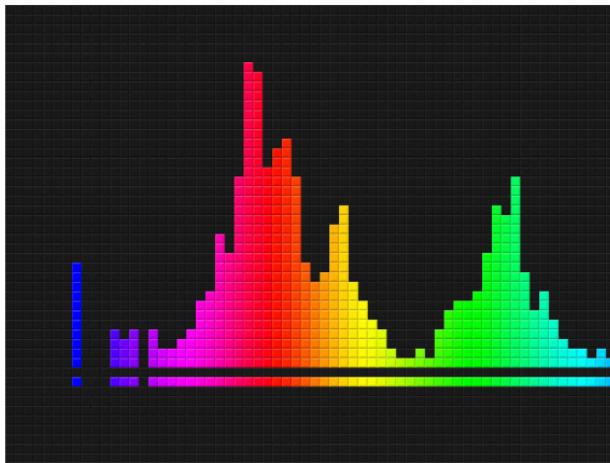
<http://designingsound.org/2017/12/20/mapping-sound-to-color/>



ALL POSTS FEATURED NEWS INTERVIEWS REVIEWS TUTORIALS RESOURCES SERIES ARCHIVES

Mapping Sound to Color

December 20, 2017 by Rev. Dr. Bradley D Meyer



For this month's topic of Spectrum, I decided to take the word literally, as applied to color, and consider its relationship to sound. The impetus for this decision was a conversation I had with a co-worker, the late

Search the site ...

SOCIAL MEDIA

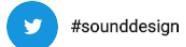


POSTS BY MONTH

Posts By Month

Select Month

#SOUNDDESIGN ON TWITTER



\$KHEMEBLSDIT 🎵 @prodbyskheme · 6m
#gherbo #meekmill #southside

<https://www.fastcompany.com/3033213/turn-color-into-sound-with-this-synesthesia-synthesizer-app>

07.18.14

Turn Color Into Sound With This Synesthesia Synthesizer App

Available for iOS and Android, Roy G Biv will let you hear what a piece of pizza sounds like.

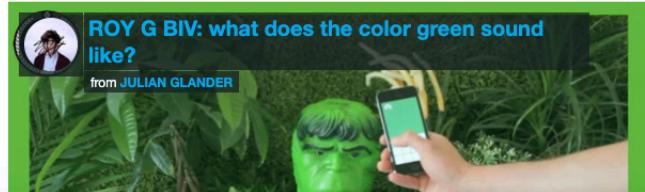
BY JOHN BROWNLEE | 1 MINUTE READ

What does a piece of pizza sound like?



Unless you have synesthesia, you've probably never heard the secret music of melted mozzarella and pepperoni for yourself. But thanks to a new app, you can. Called Roy G Biv, this iPhone app will let you use the colors of the world around you and turn them into music.

Named after the acronym for the colors of the rainbow's spectrum, Roy G Biv is essentially a synesthesia synthesizer. By aiming your smartphone's camera at something—a book, a beer, a piece of furniture, a grape soda, whatever—Roy G Biv will use the object's dominant color as the basis for a single octave keyboard.



ADVERTISEMENT

FEATURED VIDEO

<https://www.irjet.net/archives/V4/i2/IRJET-V4I2255.pdf>



COLOR TO SOUND CONVERTER FOR BLIND PEOPLE

Neha Patil¹, Prajakta Jadhav², Delia Jagtap³

¹Assistant Professor,DYPIEMR-PUNE.

²Student, BE (E&TC), DYPIEMR-PUNE.

³Student, BE (E&TC), DYPIEMR-PUNE.

Abstract - This paper represents a system which explores the reality of color in relation to sound and dedicated firstly to blind people, the challenges they live with, their psychology and their emotions. It's an exploration of the infinite range of colors that they have either never been able to see or that they have lost the possibility to see. The system developed is based on the concept of synesthesia: a 'liaison' between color and sound, color that becomes sound. This paper synthesizes a wider range of study regarding people with diverse psychological and movement conditions. Finally we conclude with a portable prototype device that has been validated and patented. It is capable of detecting color and transforming it into sound: a color sensor identifies colors and transforms this data into musical notes. The prototype is totally adaptable to the requirements of the end user meaning that the user can choose the best combination between color and sound in order to improve their communication with the environment. We are

also thanks to other aspects of a cultural type, through our conscience and subconscious.

Aspects like primordial images, symbolism, cultural influences and traditions as well as personal experiences all form part of our singular and personal way of perceiving color. Color is associated to feelings and basic life concepts such as romance, tranquility, hate, happiness, sadness, etc. as concluded by the many studies that have been made on the subject: the symbolism which belongs to color walks hand in hand with common imagination .Color, associated with either hearing or touch, represents one of the most common combinations in this field. Color is connected to other senses besides sight.

Blind people create concepts based on their personal experience and according to their point of view and imagination. They associate descriptive words and every day conversation to feelings, things they read, tactile experiences hearing taste and smell just because a blind

Updated Concept

Since my initial concept seems beyond the scope of what I can do in the allotted timeframe I need to scale back. Or scale in another direction. Audio as a device for visualization and storytelling is of particular interest to me and applies to many of my projects in the museum space so I'm sticking with that as a high-level theme but reversing the concept so it's visualization of sound in the museum. I'm particularly interested in a comparison of ambient sounds across galleries. Will this be particularly interesting? Honestly, I'm not sure. But a two week assignment seems like the right time and place to do an experimental project in which I don't know the value of the outcome.

The plan

- To record ambient sounds across galleries in the museum. There are too many galleries to record them all so I'll select some subset.
- Create a small multiple series of code-based audio visualizations that can be viewed side-by-side to see a comparison of sound levels.
- Create a web page where this project lives.

Who cares?

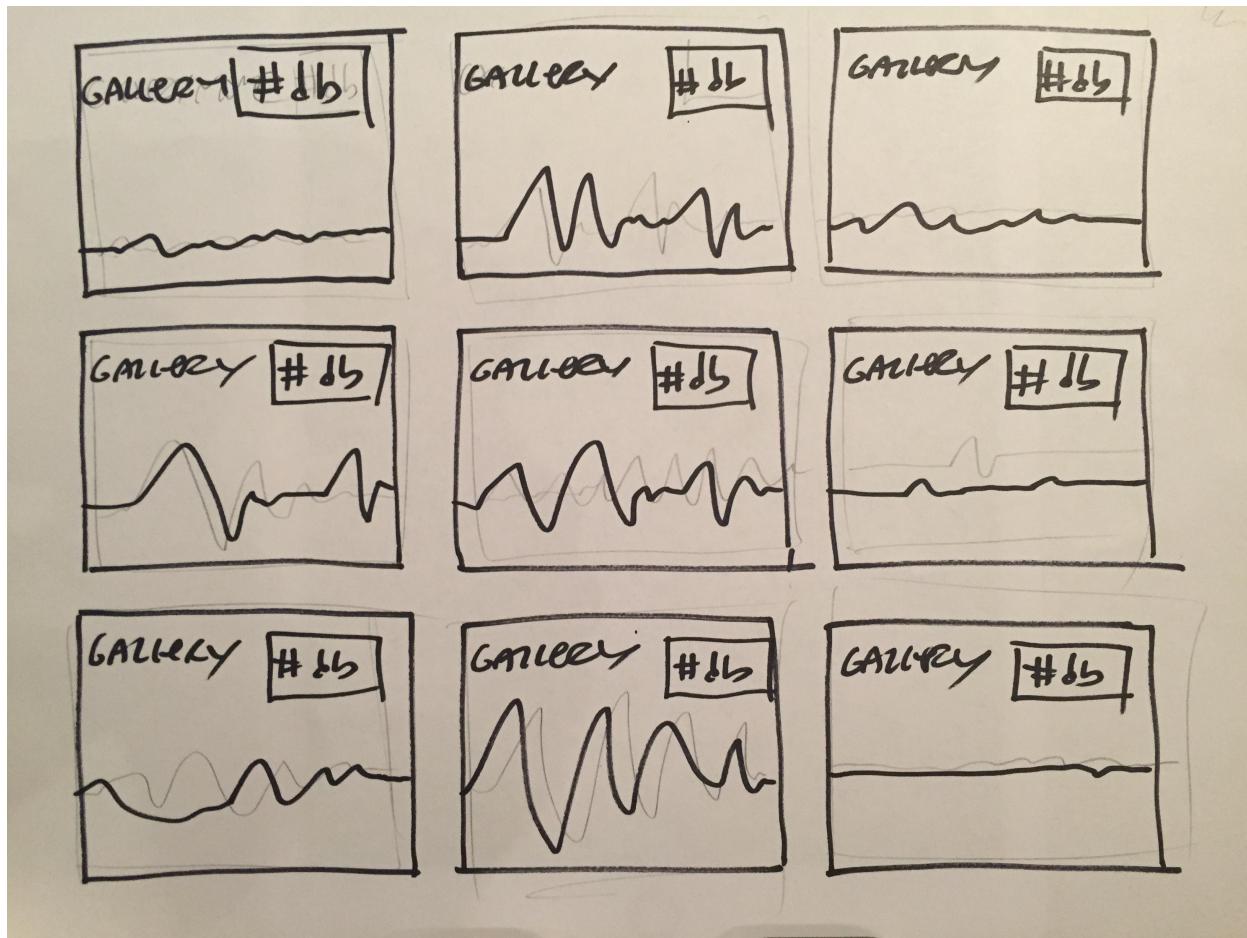
- Museum people. I've been a part of many discussions at the Smithsonian in which audio components for media projects have been shot down because 'ambient sound' prevents the use of VO, audio in AR, etc.
- It might be handy for a museum exhibition design team to actually see which rooms are loudest.

Questions

- Can I show dB levels?
- Which recording equipment will I use?
- What kind of audio visualizer will I use
- Show these DVs alongside a museum map? Integrate them into the map? Color key sketches to rooms/galleries?
- Will the museum let me record?
- Click a sketch to hear the background levels?

Possibilities

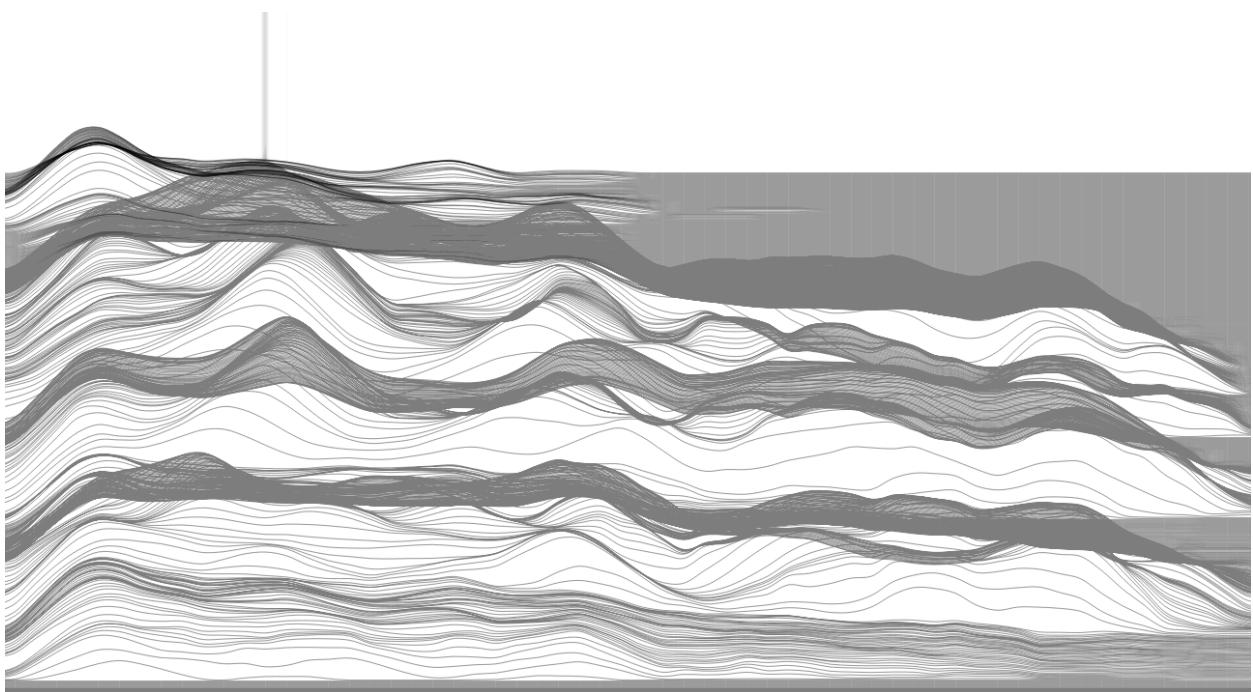
- I could easily use this project as a prototype for use at NMNH
- Are dB useful? Some other way of communicating sound levels?



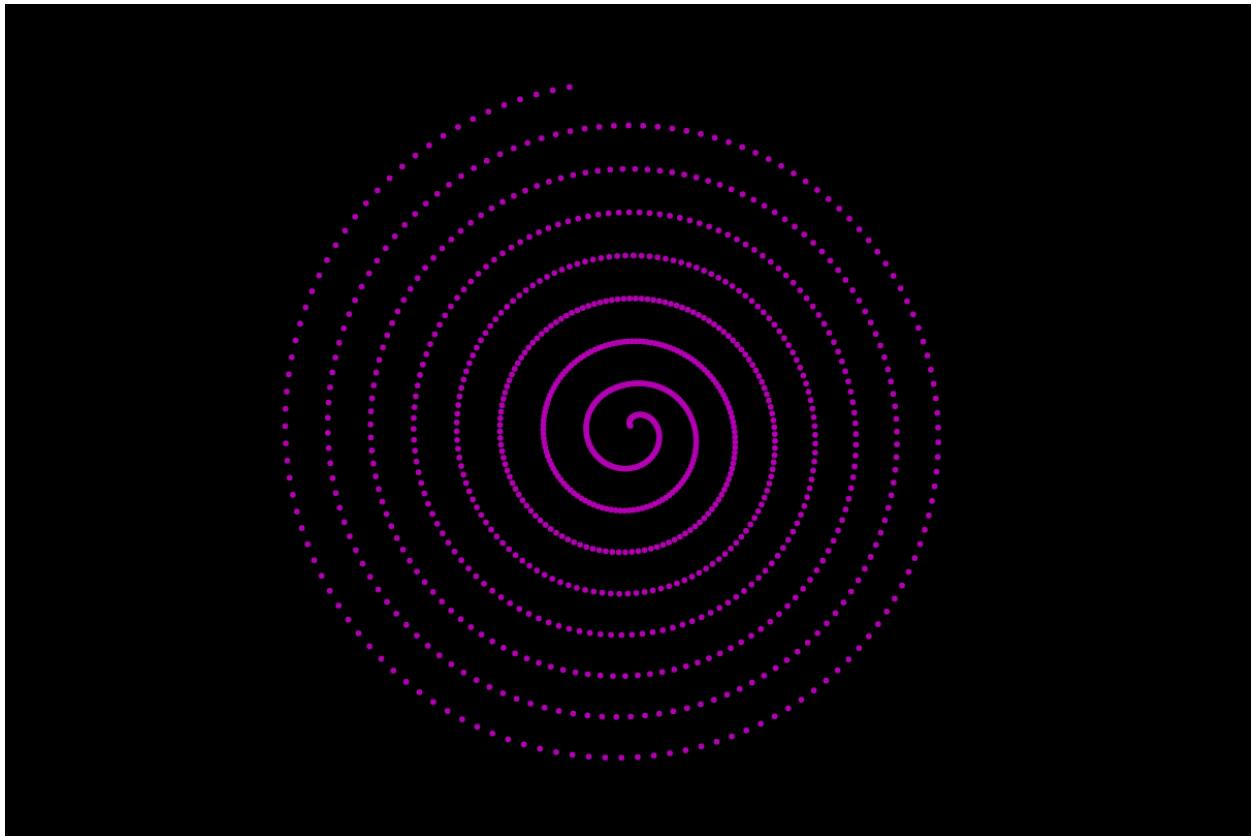


Audio Visualizations

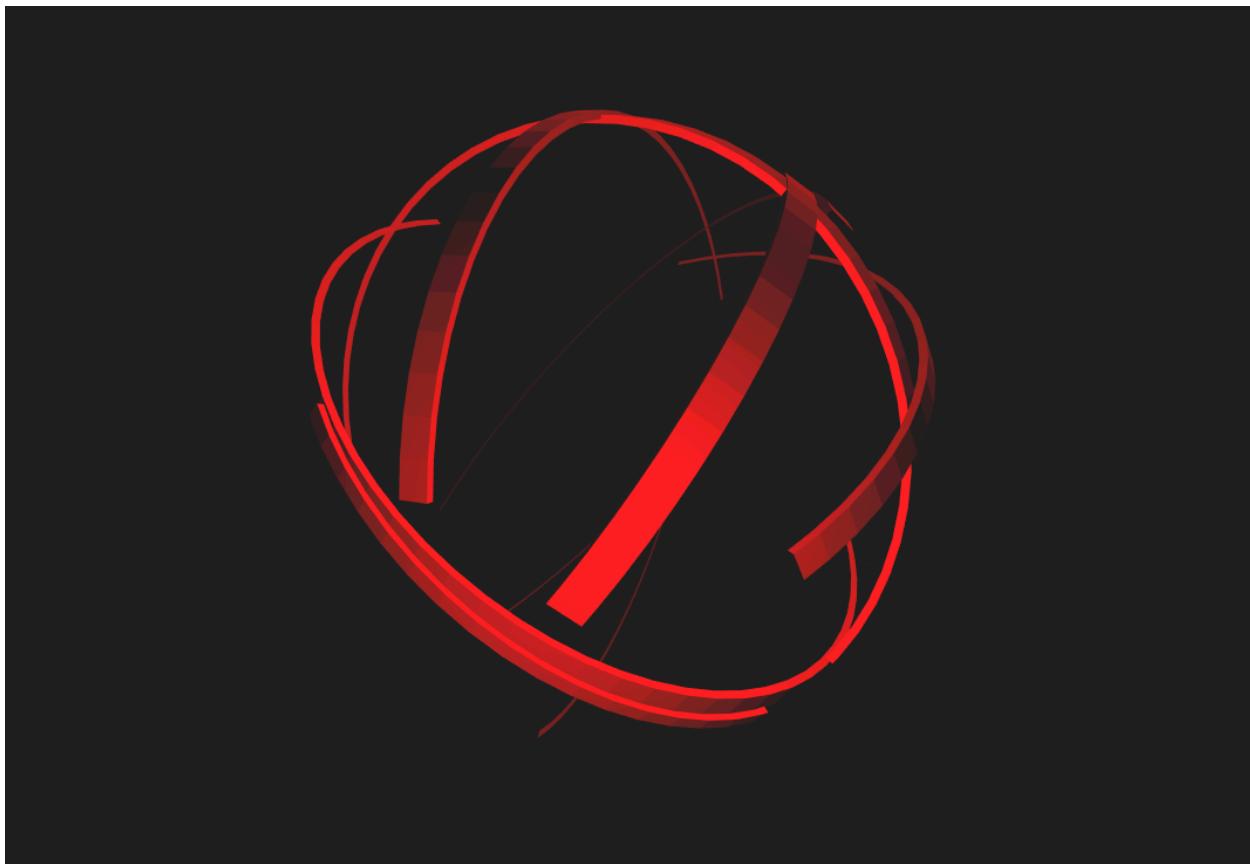
https://therewasaguy.github.io/p5-music-viz/demos/05_fft_scaleOneThirdOctave_UnknownPleasures/



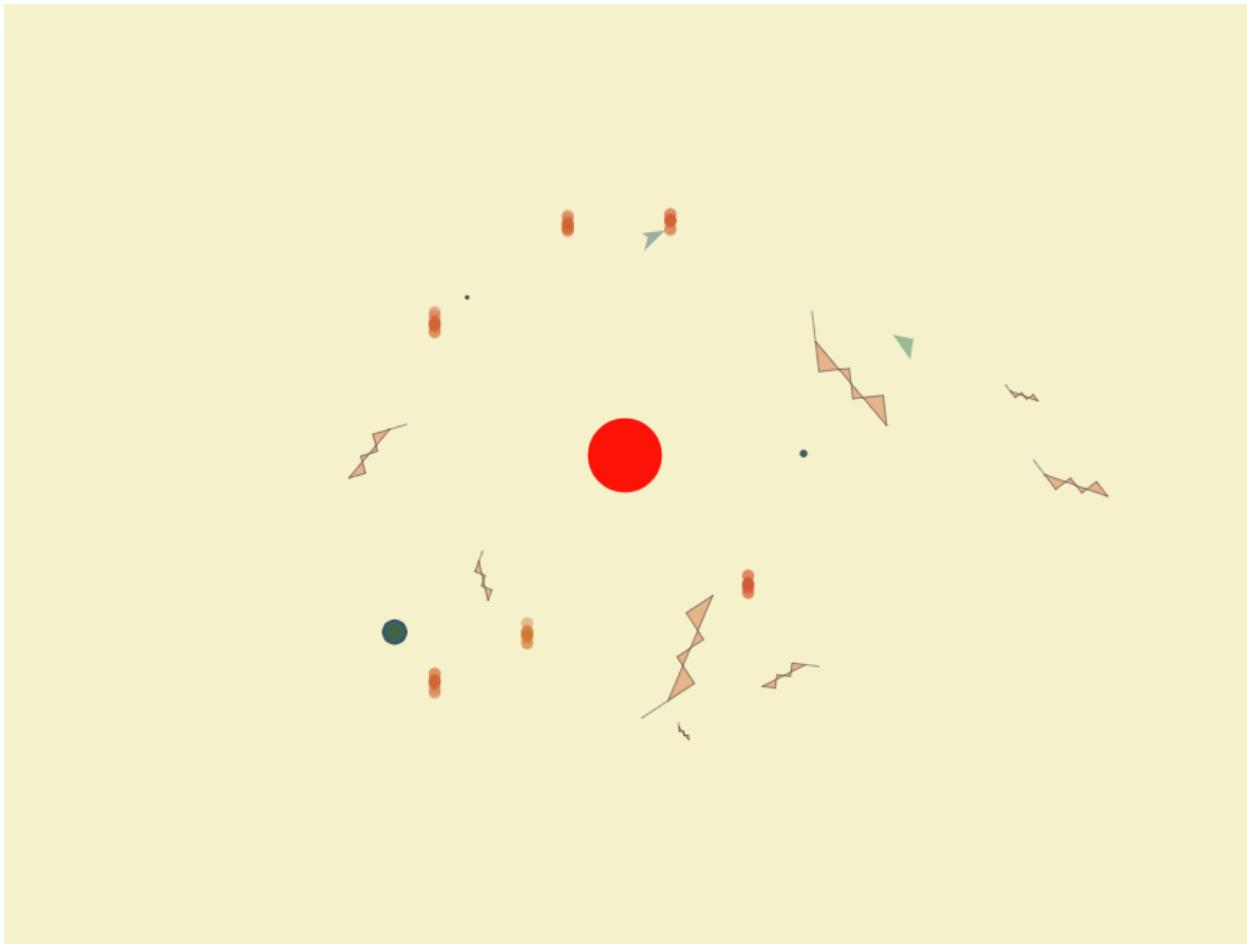
<https://soniaboller.github.io/audible-visuals/>



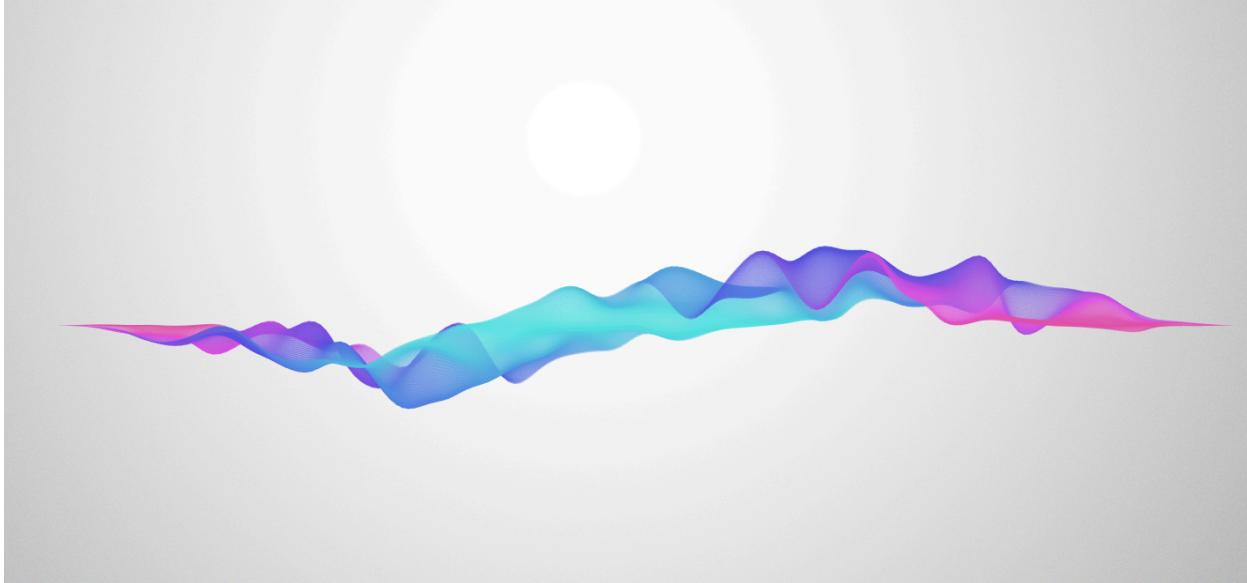
<http://brunoimbrizi.com/experiments/#/08>



<http://jasonsigal.cc/kandinskify/>



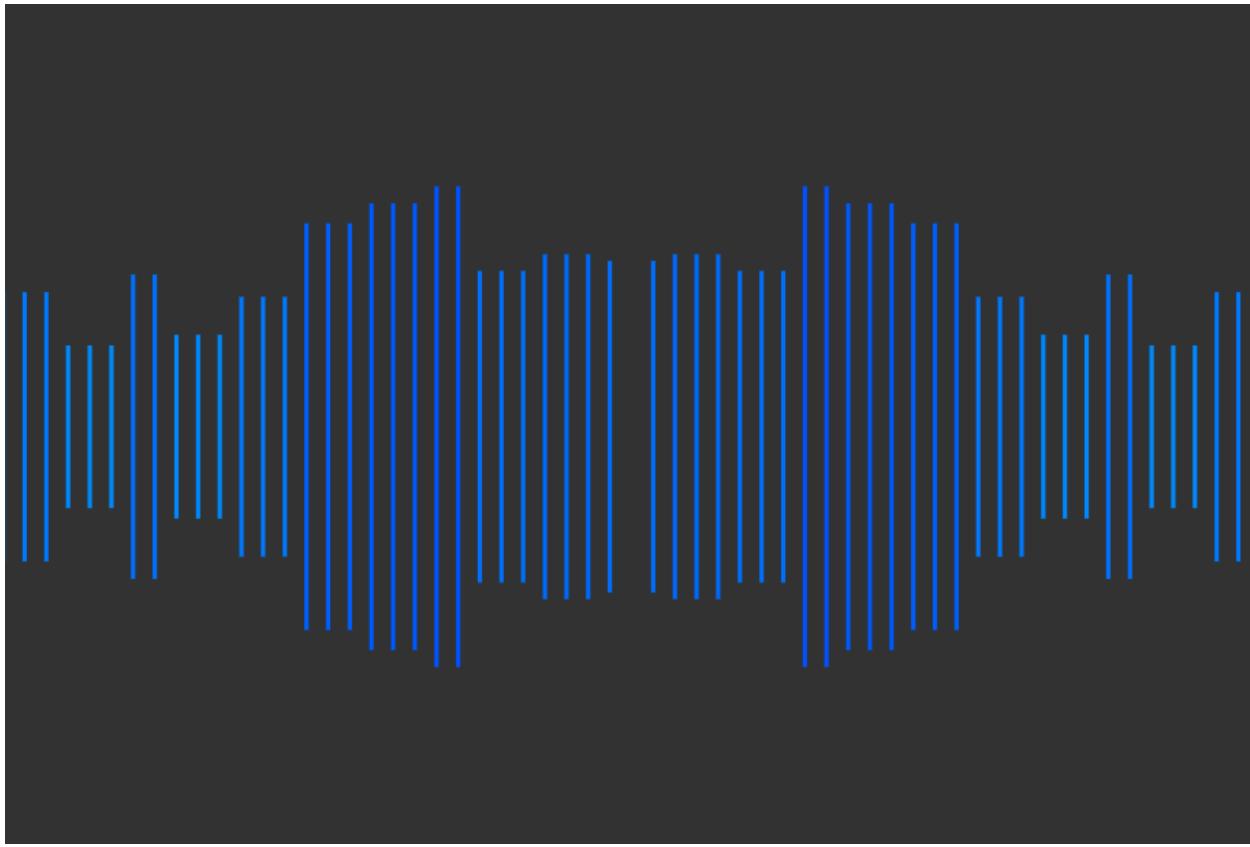
<http://mattdesl.github.io/codevember/21.html>



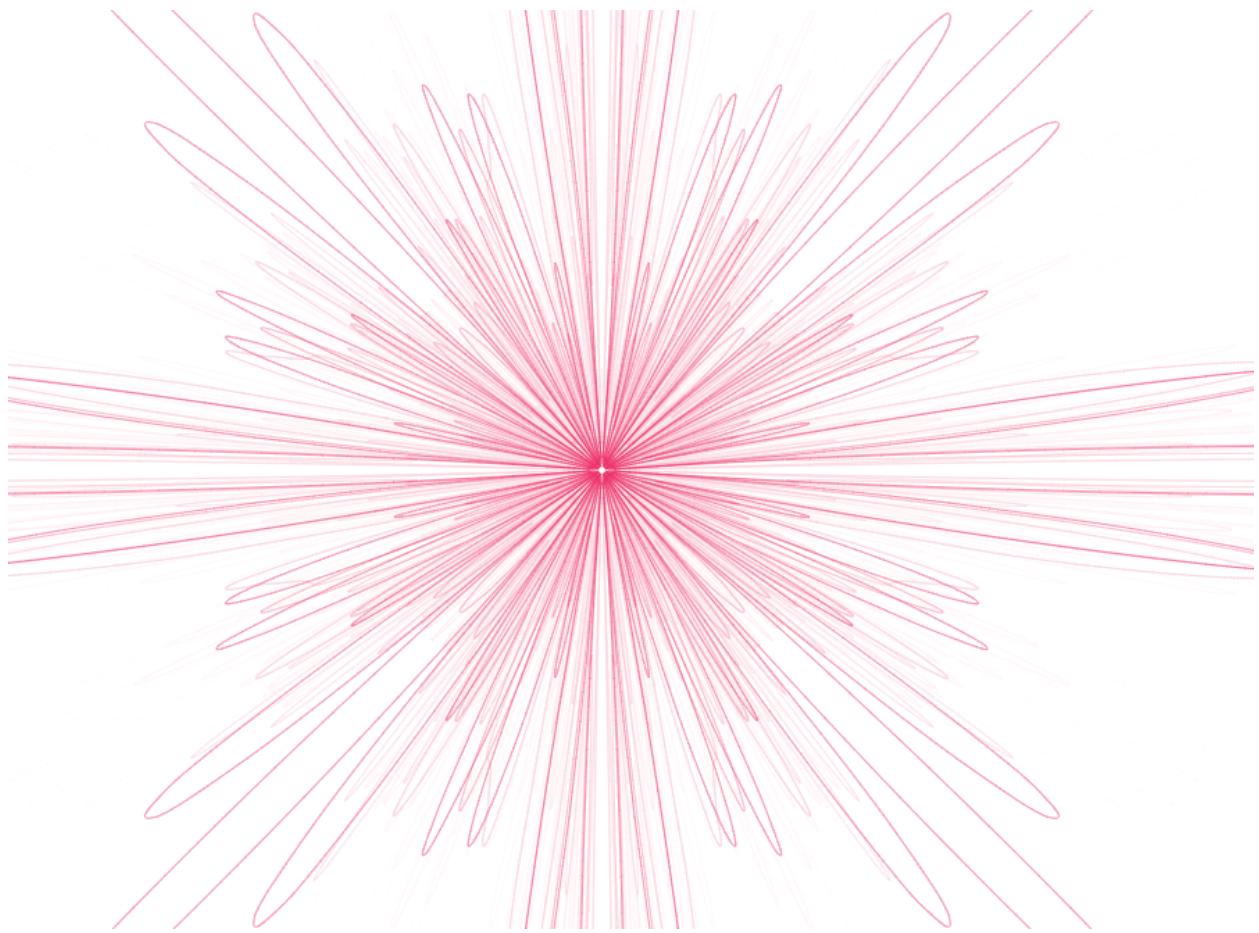
<http://mattdesl.github.io/codevember/8.html>



https://therewasaguy.github.io/p5-music-viz/demos/01b_amplitude_time/



https://therewasaguy.github.io/p5-music-viz/demos/06b_autoCorrelationCircle/



https://therewasaguy.github.io/p5-music-viz/demos/05_fft_scaleOneThirdOctave/

